

**CLAIMS**

What is claimed is:

- 1           1.       A method for optimizing compilation time of a program, the program  
2 including at least one block of code, said method comprising steps of:  
3           generating a current hash value for a block of code in the program;  
4           skipping optimization of the block of code if the current hash value equals a  
5 prior hash value; and  
6           storing the current hash value in the block of code if the hash value is not equal  
7 to the prior hash value for the block of code.
- 1           2.       The method of claim 1, wherein the storing a hash value step further  
2 comprises:  
3           allocating area for the generated hash value.
- 1           3.       The method of claim 1, further comprising:  
2           setting a scope of the least one block of code.
- 1           4.       The method of claim 1, wherein the generating a hash value step further  
2 comprises:  
3           using a parameter in hashing function to generate the hash value, wherein the  
4 parameter is selected from at least one of the group of a code stream, and a data stream.

1           5.       The method of claim 1, further comprising the step of:  
2           generating a notice when the hash value is not equal to a prior hash value for the  
3       block of code.

1           6.       A system for optimizing compilation time of a program, the program  
2       including at least one block of code, comprising:  
3           means for generating a hash value for a block of code in the program;  
4           means for storing the hash value with the block of code if the hash value is not  
5       equal to a prior hash value for the block of code; and  
6           means for skipping optimization of the block of code if the hash value equals the  
7       prior hash value.

1           7.       The system of claim 6, wherein the storing means further comprises:  
2           means for allocating area for the generated hash value..

1           8.       The system of claim 6, further comprising:  
2           means for setting a scope of the least one block of code.

1           9.       The system of claim 6, wherein the hash value is generated using a  
2       parameter in the block of code, wherein the parameter is selected from at least one of  
3       the group of a code stream, and a data stream.

1           10.     The system of claim 6, further comprising:  
2                 means for generating a notice when the hash value is not equal to a prior hash  
3     value for the block of code.

1           11.     A computer readable medium for optimizing compilation time of a  
2     program, the program including at least one block of code, comprising:  
3                 logic for generating a hash value for a block of code in the program;  
4                 logic for storing the hash value with the block of code if the hash value is not  
5     equal to a prior hash value for the block of code; and  
6                 logic for skipping optimization of the block of code if the hash value equals the  
7     prior hash value.

1           12.     The computer readable medium of claim 11, wherein said logic for  
2     storing a hash value further comprises:  
3                 logic for allocating area for the generated hash value..

1           13.     The computer readable medium of claim 11, further comprising:  
2                 logic for setting a scope of the least one block of code.

1           14.     The computer readable medium of claim 11, wherein the hash value is  
2     generated using a parameter in the block of code, wherein the parameter is selected from  
3     at least one of the group of a code stream, and a data stream.

1           15.     The computer readable medium of claim 11, further comprising:  
2           logic for generating a notice when the hash value is not equal to a prior hash  
3     value for the block of code.

1           16.     A system for optimizing compilation time of a program, comprising:  
2           a compiler that generates the least one block of code from the program; and  
3           a compilation optimizer, wherein the compilation optimizer further comprises:  
4                 logic that generates a hash value for a block of code in the program;  
5                 logic that stores the hash value with the block of code if the hash value is  
6     not equal to a prior hash value for the block of code; and  
7                 logic that skips optimization of the block of code if the hash value equals  
8     the prior hash value.

1           17.     The system of claim 16, wherein the compilation optimizer further  
2     comprises:  
3           logic that allocates area for the generated hash value.

1           18.     The system of claim 16, wherein the compilation optimizer further  
2     comprises:  
3           logic that sets a scope of the least one block of code.

1           19.     The system of claim 16, wherein the hash value is generated using a  
2     parameter in the block of code, wherein the parameter is selected from at least one of  
3     the group of a code stream, and a data stream.

- 1           20.    The system of claim 16, wherein the compilation optimizer further
- 2   comprises:
- 3           logic that generates a notice when the hash value is not equal to a prior hash
- 4   value for the block of code.